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Location of Industries in Illinois

Economics

A. M.

1912

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LOCATION OF INDUSTRIES IN ILLINOIS

BY

DONALD DEE KIRK

A. B. University of Illinois, 1911

THESIS

Submitted in Partial Fulfillment of the Requirements for the

Degree of

MASTER OF ARTS

IN ECONOMICS

IN

THE GRADUATE SCHOOL

OF THE

UNIVERSITY OF ILLINOIS

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Donald Dee Kirk

ENTITLED *Location of Industries*
in Illinois

BE ACCEPTED AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

DEGREE OF *Master of Arts*

In Charge of Major Work

David Finley

Head of Department

Recommendation concurred in:

Committee

on

Final Examination

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CHAPTER I.

THE LOCATION OF INDUSTRIES IN ILLINOIS.

The purpose of this study is to ascertain the causes which have been influential in determining the location of the manufacturing establishments of the State. Why a manufacturer locates in one particular city rather than another has been the main object of the investigation.

The study is based upon information received directly from manufacturers in the State and upon the report of the Census Bureau of 1905 on the manufacturers of Illinois, Vol XII. In this report the industries have been classified under thirty-nine different headings. Some of these have been omitted from consideration here because the material at hand has not been sufficient to justify any conclusions in regard to them. For this reason the establishments producing printed matter, gas, ice, bakery products, cigars and confectionary have not been considered. Each of these was given separate consideration by the census of 1905, but they are not of great value for the objects in view here.

The printing and publishing industries, as well as the manufacturing of gas, ice and bakery products are evidently dependent almost entirely upon population for their location. They are governed largely by local demand. Doubtless some interesting facts might be discovered if a close study were made of them, but this would require more time and effort than can reasonably be given it here.

For a somewhat similar reason the cigar and confectionary industries have necessarily been eliminated. The manufacture of these products takes place usually in very small establishments, and it would be practically impossible to make a list of these establishments complete enough to warrant the formation of any conclusions in regard to them.

It has also been found convenient to combine some of the classes of industries detailed in the census reports, since the available information as to their main product was not sufficient to determine accurately the class to which they really belonged. Therefore all foundries, machine shops and other establishments producing iron and brass ware, cutlery, etc. have been considered in the same class, since the nature of these industries is practically the same.

It has also been impossible to give Chicago the consideration that it deserves. Out of a total of fourteen thousand, nine hundred and twenty-one establishments existing in Illinois in 1905, eight thousand, one hundred and fifty nine of these were located in Chicago, and a thorough study of their location would require a large amount of clerical work. So brief mention only can be made of them.

The greatest difficulty in this investigation was the securing of a complete list of the manufacturing establishments of Illinois, and in classifying these correctly. The information of the census bureau was not available, therefore, it was necessary to rely upon the various city and business directories to which access could be had. These city directories are for

some reason far from complete in regard to manufacturing establishments, and it is necessary to supplement them in every way possible. Telephone directories were in many instances made use of but even these were not sufficient to make the files complete. The membership list of the Illinois Manufacturers' Association was of great value, for which thanks is due to that organization.

In collecting this information establishments are considered which have property or buildings actually devoted to the business of manufacturing. Small shops engaged in repairing or piece work have so far as possible been eliminated. The so-called factory, has been the main object of attention.

The list of manufacturing establishments studied contains the names of seventeen hundred and sixty eight different factories located in three hundred and three different cities in Illinois. This list cannot be called complete, and there is undoubtedly a large percentage of error. It is probable that some of the largest and most important manufacturing establishments in Illinois have been omitted. But it is hardly possible that the percentage of error is so great as to entirely invalidate the conclusions arrived at, or the results obtained.

Since the report of the 1910 Census Bureau on manufacturers in Illinois has not yet been published, there is no practical way of calculating the exact amount of error. Even if this report were available, there would be no way to prove that the two classifications are identical, and their comparison would still be unsatisfactory.

Nevertheless, since it is desirable to know something as to how correct and complete this list is, a comparison has been

made with the figures given in the report of the Census of 1905.

The industries selected for study have been grouped so far as possible into the twenty-one different classes enumerated below. The first column contains the number of establishments of that industry in the whole state as reported by the Census takers, and the second column contains the total number credited to Chicago. The third column shows the number in the State outside of Chicago, and the fourth gives the number of establishments of each class as included in the list studied.

Industry.	Number of Establishments.				
	In State	In Chicago	Out- side of Chicago	In mail- list.	Dis- crep- ancy.
I. Slaughtering & Meat Packing	68	32	36	27	
II. Iron & Steel	27	9	18	3	
III. Foundry & Machine Shop	793	426	367	382	
IV. Clothing	588 191	563 174	42	94	
V. Liquors	127	72	55	73	
VI. Flour	363	5	358	94	
VII. Agricultural Implements	82	6	76	120	
VIII. Cars (Electric & Steam)	16	11	5	3	
IX. Furniture	202	153	49	41	
X. Planing Mill & Wood products	270	132	138	112	
XI. Electrical Mach. & Apparatus	104	96	8	19	
XII. Tin, Copper & Sheet Iron Wrkng.	273	159	114	27	87
XIII. Soap & Candles	35	24	11	4	
XIV. Musical Instruments	56	32	24	8	
XV. Cheese, Butter & Milk	405	2	403	29	374
XVI. Leather Products	62	55	7	26	
XVII. Patent Medicines & Compounds	260	235	25	16	
XVIII. Carriages & Wagons	329	126	103	77	
XIX. Paints	63	52	11	9	
XX. Boots & Shoes	44	27	14	20	
XXI. Clay Products	480 <u>4838</u>	38 <u>2429</u>	442 <u>2306</u>	55 <u>1249</u>	<u>387</u>

Note. Each of these industries is treated separately in Chapter III.

As will be seen, there are two thousand three hundred and six establishments of these classes of industries in the State outside of Chicago. The list studied contains the names of one thousand, two hundred and forty nine, which apparently shows a great discrepancy. The largest part of this discrepancy, however, occurs in four industries, the Flour, Tin and Coppersmithing, Cheese, Butter & Milk, and Clay products, industries. In these four alone there is a discrepancy of one thousand, one hundred and twelve establishments. The reason for this is that many of these factories are very small and are located in very small towns, scattered so thoroughly throughout the state, that it was impossible to obtain a complete list of them. Outside of these four industries the list is fairly complete and dependable.

In order to further test the value of the list, a table is given which contains the names of the cities in Illinois, possessing according to the Census of 1905, over twenty thousand inhabitants.

In the first column to the right is given the number of establishments of the selected industries according to the 1905 census, and the second column shows the number of similar establishments included in the mailing list.

Number of Establishments.

	In Census report	In Mailing list.
Aurora	65	78
Bloomington	34	28
Decatur	78	56
E. St. Louis	63	62
Elgin	47	50
Joliet	60	18
Peoria	149	67
Quincy	148	76
Rockford	146	139
Springfield	<u>59</u>	<u>76</u>
	849	650

This shows a discrepancy of one hundred and ninty-nine factories in these ten cities but this discrepancy is not so important as it seems, since one hundred and fifty two out of that total occur in the two cities of Peoria and Quincy, and the probabilities are that in these two cities many extablishments were considered as factories in which manufacturing was merely a side line. It would be a very difficult matter for any two census takers to use exactly the same judgment in their classification of the various industries.

At any rate these tables show that the list of manufacturing establishments secured is within a reasonable degree correct, and that conclusions based upon it will not be without some value.

In order to simplify the problem of investigation, the cities of Illinois have been divided into three classes, according to the classification given in the census of 1905. Those cities containing a population of over twenty thousand constitute the first class, those with a population of less than twenty thousand, but more than eight thousand constitute the second class, and those cities of less than eight thousand inhabitants constitute the third class.

It would have been better to have based this classification upon a later census report, but the only available manufacturing statistics were those of 1905. Therefore it was thought best to make the comparisons as similar as possible.

The list of the manufacturing establishments of Illinois, exclusive of Chicago, contains the names of seventeen hundred and sixty-eight factories located in three hundred and three different cities. The following table shows the number of factories in each of the three classes of cities.

Class.	Size.	No. of Cities.	Total Population.	No. of Factories.
I.	20,000	10	307,190	652
II.	8,000--20,000	20	271,903	440
III.	1-- 8,000	$\frac{273}{303}$	$\frac{328,118}{907,211}$	$\frac{676}{1768}$

Note.-- The statistics of population were taken from the census of 1905.

There are evidently fewer factories in cities of Class II. than in either of the other two classes. At the same time it will be noticed that the total population of that class is

smaller, and that the number of factories of each class of cities varies directly with the total population of those classes.

As previously stated, the manufactures studied have been classified so far as possible into twenty-one different industries. The table following shows the number of establishments of each industry in each of the three classes of cities.

Industry.	Number of Establishments in Cities			
	of Class I.	II.	III.	Total.
I. Slaughtering & Meat Packing.	16	8	3	27
II. Iron & Steel.	1	1	1	3
III. Foundry & Machine Shop.	191	114	177	382
IV. Clothing.	42	29	23	94
V. Liquors.	33	25	15	73
VI. Flour.	15	12	67	94
VII. Agricultural Implements.	31	23	66	120
VIII. Cars (electric & steam).	1	1	1	3
IX. Furniture.	31	3	7	41
X. Planing Mills & Wood products.	35	36	41	112
XI. Elect. Mach. & Apparatus.	8	3	8	19
XII. Tin, Copper & Sheet Iron Wrkg.	12	5	10	27
XIII. Soap and Candles.	1	3		4
XIV. Musical Instruments.	4	10	4	18
XV. Cheese, Butter & Milk.	11	3	15	29
XVI. Leather Products.	10	9	7	26
XVII. Patent Medicines & Compounds.	4	4	8	16
XVIII. Carriages & Wagons.	27	28	22	77
XIX. Paints.	5	4		9
XX. Boots and Shoes.	8	3	9	20
XXI. Clay Products.	10	14	31	55

Besides these twenty-one classes of industries which correspond to those considered in the census reports, six others have been considered.

Industry.	Number of Establishments in Cities of				Total
	Class	I.	II.	III.	
Paper.		13.	4.	12	29
Canning.		5	1	13	19
Lead and Zinc Working.		4	3	7	14
Glass.		4	5	6	15
Watches & clocks.		8	2	1	11
Miscellaneous.		83	57	102	242
Total of all classes		652	440	676	1768

CHAPTER II.

In order to secure as much information as possible from the men themselves who are engaged in the business of manufacturing, a circular letter has been sent to each of these one thousand, seven hundred and sixty eight establishments, requesting replies to certain questions. The circular letter reads as follows:

University of Illinois, Urbana, Ill.

Courses in Business Administration

March 20, 1912

Dear Sir:

In our study of the industries of Illinois in the department of economics, we are anxious to secure some facts which will throw light upon the causes leading to the present geographical distribution of manufacturing establishments in Illinois. In other words, we are trying to get information that will help us to determine just why manufacturing establishments locate as they do. For that reason I am writing to ask if you will oblige us by answering the questions below and returning to the undersigned. Of course, no information from individual establishments will be given out.

Very truly yours,

David Kinley

Director

Please indicate by a cross (X) or otherwise the reasons which you consider most important in influencing the location of your establishment where it is rather than in some other town:

Proximity to source of raw material. _____

Proximity to market. _____

Proximity to desirable labor supply. _____

Access to transportation facilities. _____

Tax exemption. _____ For how long. _____

Grant of factory site entirely or in part. _____

Grant of a building entirely or in part. _____

Money bonus. _____

Other reasons. _____

What is the main product of your factory. _____

It was thought that this form of letter would secure the the most replies.

The eight most general causes were listed so that the manufacturer would be caused the least possible effort in answering the letters. A great many answers were received, some manufacturers taking great pains to send in creditable replies. As would be expected the great majority of the manufacturers stated that their location was due to some one or more of the eight causes listed. A great many, however, gave some other causes as determining or at least influencing their location. Many indicated by their replies that they had totally misunderstood the wording of the letter, and instead of explaining how they happened to start their factories in the cities where

they

did, they attempted to explain why their factories have prospered in that particular locality. Many manufacturers sent no replies because they did not know the causes determining the location of their establishments, which were started perhaps years ago.

Out of the entire number of letters sent out, four hundred and thirty eight answers have been returned, or about one fourth of the total. The following table shows that the percentage of replies was about the same for each of the three classes of cities being approximately twenty five per cent in each case.

Therefore, comparisons between these three classes of cities as to the replies received will not be valueless.

Population.	No. of Cities.	No. of Establishments	Replies.
1--8000	273	676	179
8000--20,000	20	440	98
20,000----	<u>10</u>	<u>652</u>	<u>161</u>
	303	1768	438

Besides the causes enumerated, the replies sent in designated seven other causes as being of importance in determining location in at least three instances. Seventy-two manufacturers declared that they located their plants where they did, to be in their home towns. Twenty-two chose their location because they liked the place and considered the surroundings agreeable. Twenty stated that their business grew up out of small beginnings, and they had no reason to change. Perhaps

this reason is a variation of the home town reason, but it was given a separate heading for convenience. Seventeen manufacturers located where there was water power, nine establishments were outgrowths of other factories, five owed their location to the absence of local competition, and three located in towns where they would be free from the interference of labor unions. Each of these causes will later be given separate consideration. Besides these causes a few others were given which apply somewhat to special conditions. One man claimed that he could manufacture more cheaply where he was than elsewhere, but gave no reasons. Another located in a city of homes for workmen. Another considered the name of a certain town as an advertisement or guarantee of his goods. One man located in a suburb just outside of a certain city, so that his employees would not be interrupted by visitors, and another stated that he was located in a certain town because he could not get elsewhere.

Many of these replies did not answer the questions asked, but gave reasons that would apply to a class of cities rather than to that particular one. These answers were not considered of great importance, altho they have some bearing on the subject.

Some of the manufacturers were careful to indicate in some way the causes which were of first, second or third importance in determining their location. Where they did so, their answers have tabulated to indicate the same. Where they did not do this the reasons named are given equal importance. Sixty-nine located in their home towns, for that cause mainly. Thirty two considered nearness to raw material as the main

cause, thirty located to be near the market, twenty-four considered transportation facilities of prime importance, and twenty-two located where they thought they could get the most satisfactory labor supply. Eleven chose water power as the main consideration, and eleven others that that having a pleasant place in which to live was the most desirable feature.

In the way of local encouragement, only eight manufacturers located where they did primarily because of that. Five of these were granted the site on which their establishments were placed, and three received a money bonus. Thirty-eight however, admitted that the grant of the entire site was an influence, while to four others the site was granted in part. Thirteen considered the receiving of a money bonus of minor importance, and twelve located where they did partly because the building was given them either entirely or in part. Six only admitted that they had received some encouragement in the way of tax exemption.

The following table shows the final analysis of the answers received. The answers are classified under the fifteen main causes already mentioned, and a separate table is given for each of the three different classes of cities.

	1st Cause	2nd Cause	3d Cause	Undesignated	Total	1st Cause	2nd Cause	3d Cause	Undesignated	Total	1st Cause	2nd Cause	3d Cause	Undesignated	Total	1st Cause	2nd Cause	3d Cause	Undesignated	Total
1. Proximity to raw material	3	2	1	44	50	4	3	0	32	39	25	4	63	92	1	32	9	1	139	223
2. Proximity to market	11	8	3	83	105	8	2		53	63	11	5	4	92	112	30	15	7	228	332
3. Proximity to labor supply	8	3	2	76	89	1	1	1	44	60	10	7	7	87	111	19	11	10	207	247
4. Access to transportation facilities	8	5		88	101	12	4		56	72	4	11	6	89	110	24	20	6	223	283
5. Tax exemption	0			2	2				1	1				3	3				6	6
6. Grant of site, entirely	3			7	10				5	5	2	1	1	19	23	5	1	1	31	38
Grant of site, in part				2	2									2	2				4	4
7. Grant of building, entirely	2				2				1	1		2		5	7		4		6	10
Grant of building, in part														2	2				2	2
8. Cash bonus	1			2	3				2	2	2			9	11	3			13	16
9. Home town	32				32	14			1	15	23			2	25	69			3	72
10. Good place to live	5			4	9	1			2	3	5	2	1	2	10	11	2	1	8	22
11. Water power	3	1		1	5	1				1	7	1	1	2	11	11	2	1	3	17
12. Outgrowth of other factories	4				4	2				2	1				1	7				7
13. Lack of competition	1	1			2						3				3	4	1			5
14. To be free from labor unions					0						2	1		1	4	2	1		1	4
15. Grew from small beginnings	3			3	6				5	5	2	1		6	9	5	1		14	20

It will be seen that out of the thirty-two replies giving source of raw material as being the main cause for their location, twenty-five of these were from towns of less than eight thousand. A close examination shows that thirteen of these are men engaged in milling, three are engaged in butter and milk business, and three in the canning business. This accounts for the large number of manufacturers giving this as the main cause. Sixty-seven others in class III towns gave this same reason as being of secondary importance. Of these sixty-seven, eight are engaged in milling, eight in wood working and thirteen in unclassified business, such as brooms, breakfast foods, buttons, etc. These answers are in the main unsatisfactory, since raw material is available to whole sections, rather than to special cities. Such replies show very readily why such an establishment should be located in a certain section, but why a certain town in that section should be chosen was not stated. A total of one hundred and thirty-nine for all cities, considered this cause of some importance, tho not necessarily first. It will be noticed, however, that the smaller town is adapted to the location of those plants depending upon natural products for their supply of raw material.

The second cause, proximity to market received the largest number of checks, a total of three hundred and thirty-two. Twenty-two gave it first consideration, and three hundred and ten gave it secondary consideration. There were distributed pretty evenly throughout the state and little can be done in the way of drawing conclusions from it. Proximity to market may be taken to include many things such as local demand, central

distributing point, or it may even include railway connections, altho this last is supposed to be taken care of in another question. At any rate no manufacturer would think of starting a factory without paying some consideration to the marketing of the product.

The third cause is one of great importance and one which covers a large field. Desirable labor supply includes the amount of available laborers, the character of such workmen, their habits, etc., and it also involves relations with labor unions. The nationality of the workmen has also its influence on their desirability.

Nineteen manufacturers gave labor supply as the primary cause of their location, while two hundred and twenty-eight others at least considered it. Of this total of two hundred and forty-seven, manufacturers considering this cause, one hundred and eleven were located in the smaller towns, thirty seven of these being engaged in the metals working industry. The replies indicate that in a smaller town there are fewer distractions, to lead laborers away from their work, and that living is cheaper, and homes more pleasant than in a larger city. Therefore, the labor is of better quality, and also less expensive. One manufacturer in a small town stated, however, that he found labor scarce for his woolen mills, and he would locate in a larger place if he could. In the cities of over twenty thousand there were eighty-nine who considered labor supply of desirable importance.

In regard to this cause, however, the replies prove to

be somewhat unsatisfactory. Every city has an available supply of workmen and it is not likely that for this consideration alone one city would be chosen in preference to another. Other elements must enter in. This question is discussed more fully in a following chapter.

The fourth cause according to the circular letter for the location of factories is stated as access to desirable transportation facilities. It would be naturally supposed that transportation facilities would be better in the larger cities than in the smaller ones, and a greater per cent of factories in the larger cities would give this as one of the reasons for their location. It will be noted that four factories in Class III, towns located there because of the transportation facilities; twelve located in cities of the second class and eight in cities of over twenty thousand for the same cause. This was given as a secondary cause by one hundred and six manufacturers in the smaller towns, by sixty manufacturers in medium sized towns, and by one hundred and three manufacturers in our larger cities. This makes a total of one hundred and ten manufacturers from the smaller towns, seventy two from medium sized towns, as against one hundred and one for the large cities.

The replies show that of these one hundred and ten from the smaller towns, thirteen came from millers, eleven came from lumber and wood working interests, while ten came from agricultural implement factories. The facts then show that the transportation facilities of smaller towns coupled with source of raw material, labor supply and certain other reasons, has un-

doubtedly operated to influence the location of factories in some of the smaller towns rather than in others. In Classes I and II, the replies come from well distributed points, merely showing that this qualification is possessed by most cities of over eight thousand inhabitants.

The question of local encouragement is another big question worthy of far more discussion than can be given it here. It is also a difficult question upon which to gather information since some manufacturers hesitate to make public the inducements offered them which have influenced their location. One manufacturer writes, "We have made no reply to questions, five, six, seven, or eight of your letter. We will state however that we believe that a revision of the state laws governing municipalities on this point might well be made."

The Chambers of Commerce of the various cities are no longer offering inducements of this kind to any great extent. They are realizing that if their city is the logical and best place for a factory, that the factory will locate there, if it is of the right kind, and if it is not able to stand on its own feet, they do not want it anyway.

Nevertheless, it is true even yet, that in some instances large cash bonuses are offered, and perhaps other forms of inducements, but the manufacturers themselves are coming to the point where they prefer to locate in cities where the conditions are favorable rather than in some locality where local encouragement is the only inducement. It is a very difficult matter to obtain reliable information upon this point.

For the sake of convenience the different forms of local inducements have been classified under the heads of tax exemption, grants of site, of buildings, and cash bonuses.

Six manufacturers were granted tax exemption of some sort, three of these being in class I towns, one in class two, and two in class three, cities. It is very probable that some form of tax exemption was received by many others who did not report it. It would be hard to justify any conclusions on this matter.

In regard to grants of site, thirty-eight were given the entire site, and four received the site in part, making a total of forty-two. Five considered this the main cause of their location, and thirty-seven admitted that it was one of the causes, twenty three of these came from the smaller towns as would be expected, five came from cities of Class II and nine from the larger cities.

The larger number from the smaller towns is easily explained, since smaller towns usually do not possess the labor or transportation advantages of larger places and find it necessary to do something to offset this disadvantage. The rivalry existing between larger places will explain the offering of inducements on their part. This form of inducement would seem to be most general, especially in the case of smaller towns.

Fewer cities offered inducements in the way of buildings, a total of twelve only acknowledged the receiving of this sort of advantage. Ten were given the entire building. None of these regard the grant of the building as the first consideration in their location, but all consider it secondary. As in the

case of site grants, the majority of those receiving the inducement came from the smaller towns, nine out of the twelve being located in cities of Class III. Two were located in cities of Class I.

In regard to the receiving of a cash bonus, three located where they did because of that only. Two of these were in smaller towns, and one was located in a class I. cities. Thirteen others received this form of inducement, nine of these being in Class III towns and two each in cities of Classes I and II.

These results, coinciding as they do thruout will do much to place confidence in the correctness of the replies sent in. They show that the smaller towns are more in the habit of offering inducements than the larger towns, and that the medium sized cities use this method least. This can probably be explained by the fact that the medium sized cities do not have so well organized commercial clubs or so secure a financial footing as the largest cities, nor do they feel the same need of offering inducements to secure factories that smaller towns seem to feel. At any rate some very interesting and doubtless valuable material could easily be collected on this question from the Commercial Clubs of the various cities.

The cause which is listed as ninth has perhaps been influential in determining the greatest percentage of our factories. Altho this cause was not mentioned in the circular letter, it was given as a determining factor by a total of seventy-two manufacturers, In cities of class I, thirty-two factories were located for this cause only. In cities of Class II it was the

main consideration with fourteen factories and secondary with one other. In cities of class III, twenty-three manufacturers considered it the main cause, and two considered it secondary.

It would be expected that a somewhat equal percentage of the manufacturers from each class of cities would give this as the cause of their location. The percentages of manufacturers in classes I, II and III giving this causes are 19.8%, 15.3% and 13.9% respectively, showing (if the replies are reliable) that in the smaller towns a smaller percentage of manufacturers located where they did merely because it was the place of their residence.

One explanation of this may be that in the smaller towns a larger percentage of factories located because of local inducements offered. This undoubtedly explains part of it, but is not verified by the replies received from cities of class II, which has the smallest percentage of factories whose location was influenced by local inducements.

It might also be possible that many manufacturers have located plants where they live as a matter of convenience, and when the circular letter was received, they sought to justify their location by some of the reasons mentioned, and hesitated to admit that their location was not the result of a close study of the subject. The manufacturer in a small town would more probably be desirous of showing that his town possessed the advantages of raw material, market, labor supply and transportation facilities as well as a larger place. The manufacturers in larger cities feel that the advantages of this sort which

their cities possess are known, and are willing to admit that some other cause has really influenced their location. There is no way of ascertaining the facts in the case. It would have been better if this cause had been one of those enumerated in the circular letter.

The tenth cause is a somewhat peculiar one and embodies an idea which is not considered by every manufacturer. Nine manufacturers in cities of Class I located where they liked the place, five of them for that cause principally. These replies moreover came from no particular city. Three men in cities of class II located because it was a good place in which to live, one of these chiefly for that reason. No two of these replies came from the same city. In towns of class III five factories were located chiefly for this reason, and five others were influenced by it.

There is not much that can be said concerning this cause, except that evidently some manufacturers have considered the point, and others have not. In each instance the reply should be modified saying that the manufacturer liked that place the best of any with which he was acquainted. Every man's acquaintance with different cities is limited, and no one can reasonably say that any one place is the best place in the State. Some limitation should be given.

The question of water power has been an important one, but due to the fact that most of these advantages are now taken possession of it will not be so influential, in the future, in determining the location of factories as it has been in the past.

A total of seventeen factories located where there was water power, five of these in cities of class I, one in a city of class II and eleven in cities of class III. These replies came from many different places, and represented no particular class of industry.

The twelfth cause according to the table is a very important one and does much to explain the great growth of factories in our manufacturing centers. This cause is meant to include any way in which the location of a certain factory may depend upon the location of another. For instance, the utilization of by-products, the existence of a demand for a certain manufactured raw material, or the building of a new overflow plant are all considered as the outgrowth of other factories. It is very probable that many more factories are located for some of these reasons than the replies would indicate.

It is natural to expect that a larger percentage of factories would be located for this cause in the larger cities than in the smaller, due to ^{the} large number of factories in the smaller towns depending upon natural products for their raw material.

The replies received verify this. One coming ^{from} from a city of class III, two from cities of class II, and four from cities of class I. These four factories ^{are} ~~were~~ all ⁱⁿ ~~from~~ the same place, and all manufactured ^s ~~d~~ articles used by assembling factories, located there. One manufactured ^s ~~d~~ boxes for a hosiery plant, and the other three manufactured ~~d~~ furniture parts, mirrors, etc. Both replies from cities of class II came from the same

place, these two factories furnishing parts for an agricultural implement factory.

These facts indicate that the replies received concerning this cause are incomplete, and many establishments other than those given are located primarily for this reason. It is a difficult question to handle, since this cause is easily confused with labor supply, local demand, and raw material. More will be said concerning this in a later chapter.

Lack of local competition was a cause given by five manufacturers, two of these in cities of class I and three in cities of class III. This cause might have been included in the one listed as proximity to market, but it was taken to mean absence of that kind of factory in that town. Whether this is a real advantage or not is a question of some doubt. Three of these replies are from metal working industries, one from a wood working establishment, and one from a manufacturer of pharmaceuticals. In four of the five cases, some other reason was also given for locating in that place. Therefore this reason is not considered of great importance. Where there is limited supply of raw material, or limited demand this would be an effective cause, but only one of these replies came from that class of industry. It was probably given by certain manufacturers in an attempt to justify their location.

The fourteenth and last cause is one given only by manufacturers in towns of less than eight thousand. Four manufacturers chose locations in towns free from labor unions, two of them for that cause mainly, and all of them in the metal working industry. Obviously this cause will influence location only

in smaller towns since the labor unions have organizations in practically all of the larger cities. It is an interesting fact worth noting.

CHAPTER III.

The industries considered are listed in the order of the value of their products according to the census of 1905. The packing industry is first. There are thirty-two meat packing factories in Chicago, twenty-seven in cities of class I, eight in cities of class II, and three in cities of class III. A large labor supply and good transportation facilities are essential to the success of this business and these are found only in the larger cities.

But four replies were received to the questionnaire and all gave causes one, two, three and four equal consideration. One man in a city of class II located because it was his home town. This industry will flourish in any railroad center.

The industry second in the state in value of product is the iron and steel industry. This includes only those plants actually engaged in the production of iron, steel, etc. and not those engaged in the manufacture of metallic products. No replies were received from any of these plants.

So far as can be learned there are only twenty-seven factories of this kind in the state. Nine of these are in Chicago, and sixteen in cities of class I. This industry demands fuel supply and transportation facilities for its success as well as a supply of special workmen. Therefore it flourishes only in the larger cities where these are usually found to greater advantage.

The industry which ranked third in the state in 1905 includes foundry and machine shops. Lack of information regarding the nature of the products of the various metal working establishments has necessitated placing all these in the same general class.

The table shows that one hundred and seventy-seven of these are located in the cities of class III, one hundred and fourteen in cities of class II, and one hundred and ninety-one in cities of class I. There are four hundred and twenty-six in Chicago, totalling more than in all the rest of the state. The establishments of class III cities are located in many different places, showing that to some extent they supply a local demand. It is probable that practically any town of any size has a foundry or machine shop of some sort. Very little can be learned from the results of the questionnaire in regard to this industry, the majority of manufacturers checking causes two, three and four. Proximity to raw material had apparently little to do with their location. Thirty-one manufacturers located in their home towns, twenty-nine of them chiefly because of that fact. Only three of these factories were machine shops.

The manufacture of men's clothing ranked fourth in value of product in the census of 1905, and the manufacture of ladies' clothing twenty-fifth. There are both combined into one class for discussion here, because of lack of sufficient information to be able to distinguish them.

There are seven hundred and thirty-seven of these plants in Chicago, forty-two in cities of class I, twenty-nine in

cities of class II and twenty-three in cities of class III. The results from the questionnaire show that labor supply is the most important of the given causes. Twelve managers checked labor supply as one of the causes of their location and proximity to market was checked in eleven instances. Five manufacturers considered labor supply first, and four considered market first. None of these establishments were found in very small places.

The replies given are undoubtedly correct since the industry increases in number of establishments with the size of the city, showing that the larger city possesses advantages over the smaller one. These advantages would necessarily be labor supply or ready access to market, which might be made to include access to transportation facilities. This latter cause was checked in nine instances. Source of raw material was given little or not consideration.

The manufacture of whisky ranked fifth in the state in 1905, and the beer industry thirteenth. Both of these have been considered in the same class, together with a few bottling establishments which produce other than intoxicating liquors. There are seventy-two establishments in Chicago, thirty-three in cities of class I, twenty-five in cities of class II and fifteen in cities of class III. Seven of the fifteen factories located in cities of class III are found in cities of large foreign population. This distribution indicates desire for either labor supply, concentrated market or transportation facilities.

In every reply received, proximity to market was checked as a cause of location and in all but one transportation facilities was checked. Labor supply and proximity to raw materials received little or no consideration. The majority of the cities of over eight thousand inhabitants have breweries, which shows that concentrated market has considerable influence.

The information in regard to coco cola and carbonated water factories was too incomplete to justify statements in regard to them.

The flour milling industry ranked fifth in the state in 1905. There are five in Chicago, fifteen in cities of class I, twelve in cities of class II and sixty seven in cities of class III. The census report places the number in the state outside of Chicago at three hundred and fifty eight, a number which is very large and the accuracy of which may well be doubted. It is probable that grain elevators are included in this number. The very large number in the smaller cities shows that proximity to rural districts from which the raw material is drawn is desirable. Moreover, the great majority of these are in the Southern part of the state, in the wheat region, rather than further north. Several of the millers in their replies stated that they produced for a Southern market, therefore proximity to raw material and to market would influence the placing of flour mills in the southern part of Illinois. The majority of the larger cities throughout the state have mills located in the neighborhood showing that local demand has some influence.

Of the thirty replies received, twenty-seven gave proximity to raw material as one of the causes of their location, fourteen of these declaring it the main cause. None of these were in the cities of class I. (It will be remembered that not all manufacturers indicated a primary or secondary cause.) Nineteen gave transportation facilities as a cause, and nine only mentioned labor supply. It will readily be seen that the mills are located close to the source of raw material and to transportation facilities so that freight will not need to be paid upon both raw material and finished product.

The manufacturer of Agricultural implements ranked seventh in the state in 1905. The census for that year shows that six factories only were located in Chicago. The mailing list shows thirty one factories in class I, twenty-three in class II, and sixty-six in class III. Fifteen manufacturers in cities of class II sent replies to the questionnaire. Twelve of these gave proximity to market as a cause of location, eleven named labor supply, and ten named transportation facilities. Five gave being in their home town as the main cause. Illinois is considered practically the manufacturing center of the agricultural implement industry, and it is therefore not difficult for such factories to spring up anywhere in the state, where labor supply and transportation facilities will permit. This will explain the unusual large number of such factories in the smaller towns. Illinois is an agricultural state and affords a ready market, but the whole United States is the real market, and the causes given do not explain the location in those particular towns.

It is very probable that other causes than the four general ones are responsible for location. Four of the manufacturers in cities of class III were influenced by local inducements.

The manufacture of railroad and electric cars ranked eighth in 1905. This class includes only those plants not owned by railroad companies. There are not many such establishments in the state, the census report giving a total of sixteen. Eleven of these are in Chicago, indicating that a large railroad center is desirable for a location, but the existence of large plants outside of Chicago makes this statement questionable. But one reply was received from these establishments, and this manufacturer gave preference to labor supply, with proximity to market second, and transportation facilities third. Little can be said in regard to this industry.

The furniture industry was ranked fourteenth among the manufactories of the state in 1905. The census reports of that year show fifteen establishments in Chicago, but the probabilities are that this report includes a great many shops which are not factories at all but merely repair shops. There are forty-one in the state outside of Chicago, thirty-one in cities of class I, three in cities of class II and seven in cities of class III. Two replies only were received from the manufacturers located in cities of classes II and III and nothing can be said of them. Of the thirty-one establishments in cities of class I, twenty-four were in one city, and this fact will be mentioned later in the discussion. Eleven replies were received from these manufacturers, all but three of them naming labor

supply as a cause of their location. Of the three who did not give this, two located because of their home towns, and the other one because of the transportation facilities.

The industry ranked fifteenth in the state in 1905 was the lumber and planing mill industry. In this industry have been included all factories engaged in wood working, except the furniture factories. The manufacture of boxes, handles, shafts, barrels, etc. are all included in this class. There are one hundred and thirty-two such establishments in Chicago, thirty-five in cities of class I, thirty-six in cities of class II and forty-one in cities of class III. Planing mills are subject somewhat to local demand, practically every city of classes I and II having at least one. Ten replies were received from the manufacturers of these two classes of cities, and proximity to sources of raw material was given as the main cause of location. Little more can be said.

Few of the wood working factories in the smaller towns are planing mills. Moreover the great majority of these towns are in the southern part of the state where there is still some timber. Twelve replies were received from these manufacturers, and seven gave proximity to raw material as a cause of location. Of the five who did not, two were influenced by local inducements, and one located because it was his home town. This shows clearly that proximity to raw material has been considered desirable.

The next industry of the list is the manufacture of electrical machinery and appliances, which was ranked sixteenth in value of product. It includes here the manufacture of any

kind of appliance used with electricity. There are ninety-six such establishments in Chicago and nineteen in the rest of the state. Three are in cities of class II, and eight each in cities of classes I. and III. Only three answers to the circular letter were received, therefore, little can be based on them. None of these factories are farther south than the central part of the state. All have good railroad connections. The products of this industry are of a somewhat varied character and would need more complete analysis to justify conclusions in regard to them.

The industry of tinsmithing, coppersmithing and sheet iron working was ranked twentieth in 1905. The census shows a total of two hundred and seventy-three establishments, one hundred and fifty-nine of which are in Chicago, and one hundred and fourteen in the rest of the state. Many of these establishments are undoubtedly very small shops, and hardly factories at all. This partly explains the incompleteness of the mailing list. Twelve establishments are located in cities of class I, five in cities of class II, and ten in cities of class III. Nine replies were received in all, and all named proximity to market and transportation facilities as causes of their location. In this industry, has been included every form of sheet metal factories and the information regarding the product is too indefinite to attempt to classify it.

Twenty-first in importance is the soap and candle making industry. The census of 1905 reports a total of thirty-five such establishments in the state, twenty-four of which are in

Chicago. Eleven are found in the rest of the state. The mailing list contained the names of four, and nothing certain is known regarding them. Two replies were received from these, one manufacturer stating that he located close to a river for sanitary purposes, and both naming raw material and transportation facilities as causes of their location.

The manufacture of pianos and organs was ranked twenty-third in the state in 1905. There are fifty six in the state, and thirty-two of which are in Chicago. There are four in cities of class I, ten in cities of class II, and four in cities of class III, making a total of eighteen. All establishments which make articles to be used with pianos and organs, such as actions, parts, etc. have been listed under this head. Nine answers were received from these establishments. Two manufacturers stated that they located in their home towns. The other three all named transportation facilities as one of the causes, one locating where he liked the place, and one other because he received a bonus.

It is not likely that any of the four general reasons will tend to concentrate this industry in any particular class of cities, altho the majority of these establishments are located in cities of class II. This is one of the few industries considered, of which the cities of class II have more establishments than the cities of either of the other classes. There is no evident explanation of this.

Under the heading of cheese, butter and milk industry, have been considered creameries, cheese factories, condensed milk factories and in some instances possibly dairies. The census of 1905 ranks this industry twenty-fourth and records

four hundred and five establishments in Illinois, two only of which are in Chicago. The list considered here contains the names of but twenty-seven establishments. So many factories of this industry are in small towns, some even being in country districts, that it has been impossible to secure a complete list of them. Fifteen of the twenty-seven factories are in cities of class III, three in cities of class II, and eleven in cities of class I. It is evident that the great majority are located in the smaller towns. Five replies were received, four naming proximity to raw material as the main cause of location, and the other one naming residence as the main cause. Undoubtedly fresh milk is a consideration, and the rural districts possess advantages in this respect which the cities lack. It is probable that the great majority of these establishments are located in the cities where the owner happens to be living, and principally for that reason.

The leather industry (tanned, curried, and finished) was ranked twenty-seventh in the state by the 1905 census, and a total of sixty two establishments was given, fifty-five of which are in Chicago. The mailing list included under this head every kind of leather industry, harness, saddlery etc. There are seven of these establishments in cities of class I, nine in cities of class II, and ten in cities of class III. Ten replies were received to the questionnaire, three manufacturers locating chiefly to be in their home town, two mainly because of proximity to market, and one because of transportation facilities, one because of proximity to raw material, and one wrote that his business had

grown from small beginnings, thus indicating that he also located in his home town. Two only named no main cause of their location, but named the four general causes in considerations.

There is no reason why a leather product factory should not flourish in a town of nearly any size, and the existence of local demand will influence such location. Five manufacturers named local demand as a consideration.

The manufacture of patent medicines and compounds is one which has grown very rapidly in the last few years, and in 1905 was ranked twenty-eighth in value of product. The census for that year reported two hundred and sixty establishments in the state producing compounds of this nature two hundred and thirty-five of which are in Chicago. This class of industry includes the manufacture of remedies, lotions, extracts, etc., and the list given contains the name of sixteen establishments, eight of which are in the cities of Class III, and four each in cities of Class I, and II. Two replies only were received from these manufacturers, one giving residence as the cause of his location and the other stating that his business started in 1892. This industry should be investigated further.

The manufacture of carriages and wagons in Illinois has grown rapidly in the past few years, and was ranked twenty-ninth in the Census of 1905. This census reported three hundred and twenty-nine establishments in the state, one hundred and twenty-six of which are in Chicago. This is a very large number, and undoubtedly includes some establishments which are not factories at all, but merely repair shops. The mailing list contains the names of seventy-seven factories, twenty-seven of which are in

are in cities of Class I, twenty-eight in cities of Class II, and twenty-two in cities of Class III. This industry includes all factories producing any kind of vehicles, or vehicle parts. Nineteen replies were received, four naming proximity to market as the main cause of location, and one naming labor supply. Two manufacturers located because of their residence, one because he liked the place, and one because of water power. Proximity to raw material was considered by five, proximity to market by seventeen, labor supply by twelve, and access to transportation facilities by sixteen. Four of those who located in the cities of Class III were influenced by local inducements. Two manufacturers write that Illinois is near the geographical center of the vehicle industry, and this may explain the large number of manufacturers giving proximity to market as a cause of location, since all but two of these considered transportation facilities also.

This industry requires skilled labor, and it will be more successful in the cities of Classes II and III, rather than in those of Class I.

The manufacture of paints ranked thirtieth in 1905 with a total of sixty-three establishments in the state, fifty-two of which are in Chicago. The mailing list contains the names of nine manufacturers, five of whom are in cities of Class I, and four in cities of Class II. None are found in the cities of Class III. Three replies were received all of which named transportation facilities and market as causes of location. One

received local inducement having the site of the factory granted. Not much can be said of this industry.

The manufacture of boots and shoes ranked thirtieth in Illinois in 1905, there being forty-four factories in the state. Twenty-seven are in Chicago, while the mailing list contains the names of fourteen. Eith of these are in cities of Class I, three in cities of Class II, and nine in cities of Class III. In the three replies received, two manufacturers named labor supply and one names transportation facilities as the main cause of his location. One of these factories in a city of Class I, was influenced by a grant of site and of building. A good labor supply is essential to the success of this industry, and none of these factories are located in towns of less than four or five thousand inhabitants. Some of the largest plants, however, are located in the cities of Class III. It would have been better if more replies could have been received from this class of industry.

The clay products industry of the state includes the manufacture of all forms of brick and pottery. The manufacture of brick and tile rant thirty-fourth in 1905 and the manufacture of pottery, terra cotta and fire clay ranked thirty-eighth. These have both been combined for discussion here, since it has been impossible to distinguish them. The mailing list contained the names of ten establishments in cities of Class I, fourteen in cities of Class II, and thirty-one in cities of Class III, making a total of fifty-two establishments. There are clay products factories in practically all of the larger cities, and

the large number of such establishments in the smaller towns and the large number reported by the census of 1905 indicates that many of the establishments of the smaller towns have not been listed. Thirteen replies were received and all but one consider source of raw material as a cause of location, and that one gave as the cause of his location the fact that he lived in that town. Nine considered proximity to market, and seven considered transportation facilities. Only six considered labor supply.

These replies do not explain location in the particular town, since workable clay may be found practically anywhere in the State.

Besides the twenty-one classes of industries discussed, five others are considered which do not rank among the first thirty-nine industries in the State according to the census of 1905.

There are twenty-nine establishments in the State outside of Chicago engaged in making paper or paper articles. Thirteen are in the large cities, four in cities of Class II, and twelve in cities of Class III. Eleven replies were received from this industry, and indicated a main cause of their location. Three located because of their residence, two because of water power, one because of proximity to raw material, one because of proximity to market, one because of the transportation facilities, and one factory was the outgrowth of other factories, being organized to supply paper boxes. One box board manufacturer in a city of Class III. gave no main reason, but stated that he

that he had been granted his factory site. Three considered proximity to raw material, seven considered proximity to market, four considered labor supply and five considered transportation facilities.

Evidently little can be said in regard to the paper and paper article industry, except that water power is an advantage. There are four such factories in one city of Class III. Two of these located because of water power. The other two did not reply. No comparison can be made with the Chicago due to lack of information.

The mailing list contained the names of nineteen canning factories outside of Chicago. Five of these are in the cities of Class I, one in a city of Class II, and thirteen in cities of Class III. There are seven located in Chicago. It is probable that this list is very incomplete. Six replies to the questionnaire were received and all came from cities of Class III. Three located mainly because of proximity, eight raw material, one because of labor supply, and one because of a money bonus. All but this one considered proximity to raw material, and it is probable that he did also. Three considered transportation facilities.

It is natural that canning factories should be located in farming districts and that the smaller towns should have a large percentage of such factories. The facts bear this out. A great many corn products factories are located in the central part of the state.

The Glass making industry is one of some importance in the state, altho it is not one of the thirty-nine leading industries. There are thirty-five factories producing glass in Chicago, four in cities of Class I, five in cities of Class II, and six in cities of Class III. Four replies to the questionnaire were received and these all came from the cities of Class II. Only one of these indicated a chief cause for his location and transportation facilities was given as this cause. All four considered proximity to raw material, and to market and three considered labor supply. All but one considered transportation facilities. Since the kind of sand used for glass is found only in certain deposits in Illinois it is obvious that proximity to raw material is an item of consideration. The market for glass is a general one, however, and no particular city in Illinois is the best location for that reason only. A glass making factory should be successful in any place where there is an adequate supply of labor and of raw material.

Those establishments manufacturing lead, zinc, and aluminum products have been considered in a separate class. There are four of these in cities of Class I, three in cities of Class II, and seven in cities of Class III. Of these seven, five are located in southern Illinois. Only one reply was received from this class of industry and this manufacturer stated that raw material was the main consideration but that his location was, also, influenced by grant of site. Little more can be said of this industry.

The watch and clock making industry is found mostly in the cities of Class I. There are forty-one such factories in Chicago, eight in cities of Class I, two in cities of Class II, and one in cities of Class III. Two replies came from the factories in cities of Class I, and these men stated that the sites of their factories had been granted, and one man was given the building, also. Labor supply was a consideration and for this reason it is probable that not many watch factories will be located in the smaller towns.

There are several establishments in the State manufacturing products which are not easily classified. These have been classed as miscellaneous. There are eighty-three of these factories in cities of Class I, fifty-seven in cities of Class II, and one hundred and two in cities of Class III. Of the factories in cities of Class III, twenty-nine are dependent for raw material upon natural products, as compared with twenty similar establishments in cities of Class I. This partly explains the large number of miscellaneous industries in cities of Class III. Forty-nine replies in all were received. Twenty-six manufacturers considered proximity to raw material as one of the causes of their location, thirty-three considered proximity to market, thirty-one considered labor supply, and thirty-three considered transportation facilities. Six manufacturers in Cities of Class I were granted part of the site. Two manufacturers were granted their buildings, and three received a cash bonus. These five were also located in cities of Class I. Six manufacturers located in their home towns, four mainly

because of that reason, two located because they liked the place, and one chose water power. It is difficult to classify these causes of location in considering such a variety of industries.

CHAPTER IV.

There are evidently two main influences determining the location of the great majority of factories in Illinois. One of these is purely personal and is well set forth by a letter from a prominent machinery manufacturer in Rockford.

The vast majority of all manufacturing plants have been located for strictly personal reasons, in my opinion. Nearly all the industries in this City are here first and chiefly because the organizers lived here, and the business grew out of some other business. We answer your questions herewith, but behind our answer is the fact that our Company grew up in Chicago and the owners lived there, therefore when the question of a location arose, for our own personal reasons, and with the desire of most of us to continue to live in Chicago, we restricted our field of investigation to a radius of about three hours ride from Chicago. We then picked what we considered the best point.

If personal reasons were eliminated, the state of Ohio undoubtedly offers the best location for a plant in our line of business. From Ohio you can reach the average center of our market, East, South or West with the minimum haul, and thus the minimum freight rates. We could secure our raw material, pig iron and steel, cheaper. We would have transportation by the best Trunk Line railways, and as good a supply of labor as possible in this State. Personal reasons caused us to select another location, not in what can be proved to be

the most universally advantageous territory. Hundreds of manufacturers give reasons for the location of their plants, which as a matter of fact had no real influence whatever in causing such locations. Naturally they develop reasons as defense in a sense. Some offer them to prove that they are located at the best point on earth, and some like to prove that they are more handicapped in their location than any competitor at any other point.

This cause has undoubtedly determined the location of a great many establishments, and many manufacturers who did not do so, would have checked this cause, if it had been listed in the questionnaire. When a manufacturer wishes to establish a factory he prefers to locate it in a place where he is acquainted or if possible near there. Therefore, as the writer of the letter expresses it, he will restrict his field of investigation to a certain radius, and then pick out what he thinks is the best place. In the majority of instances, he will locate his factory in the town in which he lives.

There is another cause which determines the location of a great many factories. It is explained by the following quotation taken from a letter by a prominent manufacturer in one of the smaller towns. He writes:-

"To find the reason for the present location of nine-tenths of the factories, you must go back forty to sixty years. Take Rockford for example. More than sixty years ago

there were several energetic young men there, who 'pitched in' at whatever they undertook to do. Three or four industries were started and the subordinates of these men developed talent along these lines. The present great Emerson concern is a direct continuation of the original beginnings."

"Factories grow wherever there are people who have the training for that particular line. The fact that these conditions produce men with training along certain lines, leads young men who are winners in any locality to start a factory where they can get the men who know how to do that kind of work."

"Go into New England and you find an entirely different line of industries, which has taken longer to develop capable men as workers.

"Factories sometimes move but not often. They usually grow and stay where they grow."

This cause as stated in the foregoing letter will do much to explain the growth of factories in our manufacturing centers. Labor is a very important consideration in any industry, and the letters from many manufacturers emphasize this importance. Therefore factories are much more likely to spring up where there is a supply of trained labor from which to draw. The city of Rockford is the best example of this. The manufacturer writes, "Our labor is almost entirely American and Swedish-American, the undesirable foreign element being a minus quantity. We have no tenement districts, and this

labor lives in comfortable little homes. Statistics show that Rockford has a greater percentage of laboring men owning their own homes than any industrial center in the world."

Another writes:- "About forty years ago a furniture factory was started here, and the twenty-five factories that we have today are offshoots of this original one. Every once in a while, two or three of the most progressive would sever their connection with the original and start a new one, noting the success that the original was experiencing. Then came on the co-operative idea and accelerated the formation of a number of new ones. This is true of other industries as well."

An examination of the tables inclosed in the appendix shows that factories tend to grow up near other factories of similar nature. There are nine clothing factories in Aurora and twelve in Rockford, eight liquor establishments in Peoria, eight wood working factories in Cairo, four watch factories in Elgin, eight (and probably more) large stove factories in Quincy, and nineteen metal working establishments of various kinds in Moline. Besides these, Rockford is known for its furniture factories, Moline for its carriage and agricultural implement industries and a great many factories in Freeport produce gas engines. Other causes also have bearing on these locations. For instance it is obvious that the seven large packing houses of East St. Louis are better located there than in any other city of Illinois except perhaps Chicago. But these facts all show that our factories have a tendency to group themselves together, and the presence of an available labor

supply is an important determining factor.

Another manufacturer writes:- "Many of our manufacturing centers grew up from a little blacksmith shop, or a little repair shop at the cross roads. The location or environments may have nothing to do with it. Furniture making in Rockford began in a very small way and grew because a good many of the people were mechanics in that line and one factory sprang up after another. It can not be said that there was any inducement. The raw materials were here as they were in many other places to begin with."

It is worthy of note that many manufacturers in the smaller towns give good reasons why a large city is not a good place in which to locate a factory. One manufacturer from a city of Class III. writes;-

"The subject, "Why manufacturers locate in small towns," is a large one. No doubt any manufacturer could give you ten pages of typewritten data regarding its many good features. One of the principal points is that we do 50% more work in a small town than any manufacturers do in a large city. This includes the office help and boys out in the factory. The reason for same is that we are not tempted with a lot of excitement such as they have in the large cities which keeps the help out late at night, and not fit for work the next morning. I am writing this from experience, having been in the manufacturing business both in New York City and in Chicago. I find that I can do at least twice as much work in a small town as I can in any large city. There are very few callers and my office help is far

brighter and less expensive. We save money on drayage to the depots. Another strong feature is the social end."

A certain machinery manufacturer writes:- "I feel that perhaps we have thot and studied this question of proper location more closely than is general. This plant was located in the congested section on the west side of the city of Chicago until 1904. In 1903 we decided that we could not afford to purchase more of the high priced ground and cover it with manufacturing buildings. We therefore considered the question of moving our plant either to the suburbs of Chicago, or to some outside point, within easy traveling distance of Chicago. The manufacturing suburbs of Chicago offer better transportation facilities, secure better freight rates, and in a sense are nearer both raw material and the market for our line, than any outside point. On the other hand, they do not possess the labor supply, nor do they offer an equal home for labor, as compared with one of the independent towns beyond the suburban district." The writer of this letter selected one of these independent towns as his location.

A large city possesses the advantages of a concentrated market, large labor supply, and good transportation facilities. In a smaller city the cost of living is lower, houses are better and distractions are fewer. Moreover, in a large city the expansion of a factory is difficult and expensive.

Many factories which require skilled labor are locating in smaller towns and are building up little industrial communities for their workmen. This is easily done by a company if

it is moving from one place to another. It can take its laboring force with it. This method of dealing with the labor question is undoubtedly increasing in use. The manufacturer has in this way the men whom he must depend upon for his labor and they in turn are dependent upon him. This plan will not be used of course by those industries such as clothing manufacturing, etc., which employ a large number of women and girls. These will continue to be found largely in the cities.

In regard to local inducements, as before stated there is a variety of opinion from the different manufacturers. Nevertheless the majority of these who have mentioned it have indicated that local inducements alone should not be held the most important consideration in deciding a location. Tax exemption and the giving of a cash bonus are in almost all instances frowned upon, not only by the local commercial clubs but by the manufacturers themselves. The secretary of the Chamber of Commerce of a certain city writes, -

"Tax exemption will never build an industrial community. It is pernicious in its conception and is nothing more or less than class legislation. The manufacturer employed fifty men has no more right to ask it than the clothing merchant employing fifteen men. The clothing man has no more right to ask it than the grocer employing five men. The grocer employing five men has no more right to ask it than the doctor employing an office girl.

"The very same principle applies to the question of a bonus. There is not a reputable industrial center in the land

which is giving a single penny in the way of a bonus. A cash bonus will not purchase the kind of a manufacturing plant an American city should want. The grant of a building entirely or in part in a restricted way comes under the same general heading of pernicious activity. The grant of a factory site under certain conditions is made in our city, and in a great many of the other leading industrial cities of the country."

A certain manufacturer writes, "So far as factory site is concerned we do not believe there is any necessity for a factory buying its site, as there are any number of good towns and cities that will furnish that without cost."

It is evidently considered somewhat as a business courtesy, for a city to offer to a new factory some advantages in the choice or cost of a site. These are advantages which a city or the business men of a city often have at their disposal, and these privileges are extended to worthy industries as a courtesy. Restrictions in some form are usually made to protect the city from unscrupulous men.

This investigation, then, indicates that the great majority of factories in Illinois outside of Chicago have been located in the cities in which their owners were residents. Factories also tend to spring up near other factories, either because of the presence of an available labor supply, or because men living in a manufacturing community naturally become interested in manufacturing. These are the main influences which have governed the location of our manufacturing establishments.

A P P E N D I X

EXPLANATION.

The following tables show the number of establishments of each of the studied industries in the cities of Illinois. The cities are grouped into three general classes, previously mentioned. The number opposite the name of a city is the number of establishments in that city according to the mailing list. The number in parenthesis below the name of the city is the number of establishments in that city according to the census of 1905.

I. SLAUGHTERING & MEAT PACKING. (1)

Aurora	1
Decatur	3
East St. Louis	7
Elgin	1
Joliet	
(1)	
Quincy	1
Peoria	
(3)	
Rockford	2
Springfield	1

II. IRON & STEEL. (2)

Aurora	1
East St. Louis	
(3)	
Joliet	
(4)	
Rockford	
(1)	

III. FOUNDRY & MACHINE SHOP. (3)

Aurora	25
Bloomington	7
(10)	
Decatur	10
East St. Louis	20
Elgin	15
Joliet	7
(15)	
Peoria	23
(25)	
East Peoria	1
Quincy	25
(31)	
Rockford	44
Springfield	14

IV. CLOTHING. (4)

Aurora	9
Bloomington	2
Decatur	4
East St. Louis	1
Elgin	1
Joliet	
(1)	
Peoria	1
(4)	
Quincy	6
(7)	
Rockford	12
Springfield	5

V. LIQUORS. (5)

Aurora	1
Bloomington	3
Decatur	3
East St. Louis	5
Elgin	3
Joliet (3)	
Peoria	13
Quincy (3)	2
Rockford	2
Springfield	1

VI. FLOUR MILLS. (6)

Aurora	3
Bloomington (2)	
Decatur (5)	1
East St. Louis	2
Joliet	3
Peoria (3)	1
Quincy (5)	1
Rockford	2
Springfield	2

VII. AGRICULTURAL IMPLEMENTS. (7)

Aurora	1
Decatur	4
(5)	
E. St. Louis	
(1)	
Elgin	2
Joliet	3
Peoria	5
(6)	
Quincy	3
Rockford	5
Springfield	8

VIII. CARS. (RAILROAD) (8)

Aurora	
(1)	
Bloomington	
(1)	
Decatur	
(2)	
E. St. Louis	1
(5)	
Joliet	
(2)	
Peoria	
(4)	
Quincy	
(2)	
Rockford	
(1)	
Springfield	
(5)	

IX. FURNITURE. (14)

Bloomington	
(2)	
E. St. Louis	1
(2)	
Elgin	1
Peoria	2
(3)	
Quincy	3
(4)	
Rockford	24

X. LUMBER & PLANING MILL PRODUCTS. (15)

Aurora	5
Bloomington	2
(4)	
Decatur	5
(7)	
E. St. Louis	6
(12)	
Elgin	2
(14)	
Joliet	
(14)	
Peoria	4
(10)	
Quincy	6
Rockford	6
Springfield	
(4)	

XI. ELECTRIC MACHINERY & APPARATUS. (16)

Aurora	1
Bloomington	1
Decatur	1
E. St. Louis	1
Elgin	1
Peoria	1
Springfield	2

XII. TIN & COPPERSMITHING & SHEET IRON WORKING. (20)

Aurora	4
(7)	
Decatur	
(5)	
East St. Louis	
(4)	
Elgin	
(2)	
Joliet	
(1)	
Peoria	
(7)	
Quincy	
(1)	
Rockford	4
(6)	
Springfield	4
(8)	

XIII. SOAP & CANDLES. (21)

Decatur	
(1)	
Elgin	1
Peoria	
(1)	

XIV. MUSICAL INSTRUMENTS, PIANOS, ORGANS, ETC. (23)

Elgin	1
Joliet	
(2)	
Rockford	3

XV. BUTTER, CHEESE & MILK. (24)

Aurora	3
Bloomington	1
Decatur	2
E. St. Louis	1
Elgin	4
Peoria	
(1)	
Quincy	
(2)	

XVI. LEATHER (TANNED, CARRIED & FURNISHED) (27)

Aurora	
(2)	
Bloomington	1
(2)	
Decatur	
(2)	
E. St. Louis	
(1)	
Elgin	1
Joliet	
(1)	
Peoria	2
(3)	
Quincy	4
Rockford	2
(6)	
Springfield	
(1)	

XVII. PATENT MEDICINE AND COMPOUNDS. (28)

Aurora	1
Bloomington	2
(7)	
Decatur	1
(6)	
E. St. Louis	
(1)	
Elgin	
(1)	
Joliet	
(3)	
Peoria	
(2)	
Quincy	
(5)	
Springfield	
(1)	

XVIII. CARRIAGES & WAGONS. (29)

Aurora	2
(5)	
Bloomington	2
(3)	
Decatur	2
(4)	
E. St. Louis	3
Elgin	1
Joliet	1
Peoria	2
(7)	
Quincy	4
(13)	
Rockford	2
(4)	
Springfield	8

XIX. PAINT. (30)

Aurora	2
E. St. Louis	1
(2)	
Rockford	1
Springfield	1
Joliet	
(1)	
Peoria	
(1)	

XX. BOOTS & SHOES. (31)

Decatur	1
Elgin	1
Rockford	4
Springfield	2

XXI. CLAY PRODUCTS. (34)

Aurora	
(1)	
Bloomington	2
(3)	
Decatur	2
E. St. Louis	
(1)	
Elgin	1
Joliet	
(2)	
Peoria	1
Quincy	1
(8)	
Rockford	1
Springfield	2

PAPER

Aurora	2
Decatur (1)	
E. St. Louis	1
Joliet	3
Peoria (3)	1
Quincy	3
Rockford (4)	3

CANNING FACTORIES.

Bloomington	1
Elgin	1
Peoria	2
Rockford	1

GLASS

E. St. Louis (1)	
Rockford	4

LEAD, ZINC & ALUMINUM WORKING.

E. St. Louis	2
Elgin	1
Springfield	1

WATCHES & JEWELRY.

Elgin (4)	2
Rockford	2
Springfield	4

MISCELLANEOUS.

Aurora	8
Bloomington	6
Decatur	10
E. St. Louis	11
Elgin	4
Joliet	1
Peoria	7
Quincy	11
Rockford	9
Springfield	17

I. SLAUGHTERING & MEAT PACKING (1)

Alton	3
Cairo	1
Jacksonville	2
Kankakee	2

II. IRON AND STEEL (2)

Moline	1
--------	---

III. FOUNDRY & MACHINE SHOP (3)

Alton	7
Belleville	6
Cairo	1
Champaign	6
Danville	2
Evanston	2
Freeport	13
Galesburg	13
Jacksonville	1
Kankakee	7
Kewanee	8
LaSalle	1
Mattoon	3
Moline	14
E. Moline	5
Pekin	5
Rock Island	6
Streator	7
Waukegan	7

IV. CLOTHING (4)

Alton	3
Cairo	1
Champaign	3
Freeport	1
Galesburg	3
Jacksonville	4
Kankakee	2
LaSalle	1
Mattoon	2
Moline	1
Ottawa	1
Rock Island	2
Streator	2
Waukegan	2

V. LIQUORS (5)

Alton	2
Belleville	2
Cairo	1
Champaign	2
Danville	1
Freeport	4
Galesburg	2
Kankakee	3
Kewanee	1
Ottawa	1
Pekin	1
Rock Island	4
Waukegan	1

VI. FLOUR MILLS (6)

Alton	4
Belleville	2
Cairo	1
Galesburg	3
Jacksonville	1
Kankakee	1

VII. AGRICULTURAL IMPLEMENTS. (7)

Alton	2
Belleville	3
Freeport	1
Galesburg	4
Kankakee	1
Mattoon	1
Moline	5
East Moline	1
Ottawa	3
Pekin	1
Rock Island	1

VIII. RAILROAD CARS. (8)

Kankakee	1
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IX. FURNITURE. (14)

Kankakee	1
Moline	1
Streator	1

X. LUMBER & PLANING MILL PRODUCTS. (15)

Alton	2
Cairo	8
Champaign	7
Jacksonville	1
Kankakee	3
Lincoln	1
Moline	2
East Moline	1
Pekin	3
Rock Island	5
Streator	2
Waukegan	2

XI. ELECTRIC MACHINERY & APPARATUS. (16)

Galesburg	1
Moline	1
Rock Island	1

XII. TINSMITHING, COPPERSMITHING & SHEET IRON WORKS. (20)

Danville	1
Galesburg	3
Rock Island	1

XIII. SOAP & CANDLES. (21)

Galesburg	2
Rock Island	1

XIV. MUSICAL INSTRUMENTS, PIANOS, ORGANS. (23)

Champaign	1
Galesburg	2
Kankakee	1
Moline	1
Ottawa	1
Pekin	1
Rock Island	2
Waukegan	1

XV. MILK, CHEESE, ETC. (24)

Rock Island	1
Champaign	2

XVI. LEATHER GOODS. (27)

Cairo	1
Champaign	2
Freeport	1
Galesburg	1
Lincoln	1
Ottawa	1
Waukegan	2

XVII. PATENT MEDICINE & COMPOUNDS. (28)

Cairo	1
Freeport	1
Rock Island	2

XVIII. CARRIAGES & WAGONS. (29)

Alton	1
Belleville	2
Danville	2
Freeport	2
Galesburg	1
Jacksonville	1
Lincoln	1
Moline	6
East Moline	2
Ottawa	4
Pekin	1
Rock Island	3
Streator	2

XIX. PAINT. (30)

Alton	1
Freeport	1
Kankakee	1
Moline	1

XX. BOOTS & SHOES. (31)

Belleville	1
Freeport	2

XXI. CLAY PRODUCTS. (34)

Alton	2
Belleville	2
Champaign	3
Danville	2
East Alton	1
Kankakee	1
Rock Island	1
Streator	2

PAPER

Alton	2
Freeport	1
Waukegan	1

CANNING FACTORIES.

Rock Island	1
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WATCHES, JEWELRY, ETC.

Evanston	1
LaSalle	1

GLASS

Alton	1
Danville	1
Ottawa	1
Streator	2

LEAD, ZINC.

Kewanee	1
Moline	1
Rock Island	1

MISCELLANEOUS.

Alton	2
Belleville	i
Cairo	6
Champaign	4
Danville	2
East Alton	2
Evanston	3
Freeport	10
Galesburg	7
Kankakee	1
LaSalle	2
Lincoln	2
Moline	1
Ottawa	1
Pekin	1
Rock Island	8
Waukegan	4

I. SLAUGHTERING & MEAT PACKING. (1)

Galena	1
Olney	1
Tentopolis	1

II. IRON & STEEL. (2)

Batavia	1
---------	---

III. FOUNDRY & MACHINE SHOP. (3)

Arlington Hts.	1
Arrowsmith	1
Arthur	1
Augusta	1
Avon	1
Barrington	1
Batavia	4
Belvidere	3
Blue Island	1
Bradley	2
Bridgeport	2
Bushnell	1
Cambridge	1
Canton	3
Carmi	1
Carpentersville	1
Chicago Hts.	7
Clinton	2
Colchester	1
Colden	1
Collinsville	1
Dallas City	1
De Kalb	3
Dixon	3
Douners Grove	2
Du Quoin	1
Edwardsville	2

III. FOUNDRY & MACHINE SHOP. (3) (Continued)

Fulton	3
Galena	2
Galva	2
Geneva	3
Gibson City	1
Goodfield	1
Grafton	1
Grand Crossing	2
Granite City	1
Grant Works	2
Griggsville	1
Harvard	3
Harvey	7
Havana	3
Hillsboro	1
Hoopeston	3
Lanark	1
Lawrenceville	2
Leclaire	1
Lewistown	2
Libertyville	1
Litchfield	4
Lockport	1
Lovington	1
Mackinaw	1
Macomb	1
Marengo	2

III. FOUNDRY & MACHINE SHOP. (3) (Continued)

Marseilles	2
Maywood	2
Mendota	2
Monmouth	4
Montgomery	1
Morris	1
Morton	2
Murphysboro	1
New Athens	1
North Aurora	1
Oblong	1
O'Fallon	1
Olney	1
Oregon	3
Pana	3
Paxton	1
Peotone	1
Peru	2
Pittsfield	1
Plano	1
Princeton	3
Prophetstown	1
Rochelle	2
Rock Falls	3
St. Charles	5
Sandoval	1
Sandwich	3

III. FOUNDRY & MACHINE SHOP. (3) (Continued)

Shelbyville	2
Sheller	1
Sparta	1
Sterling	12
Sycamore	4
Warren	2
Wenona	1
Winthrop	1
Woodstock	1

IV. CLOTHING (4)

Abingdon	1
Arthur	1
Canton	1
Centralia	1
Chester	1
Fairfield	1
Greenville	1
Hanover	1
Highland	1
Ipava	1
Jackson	1
Lacon	1
Lemont	2
Mackinaw	1
Mount Vernon	2
Peru	1
Pinckneyville	1
Polo	1
Rochelle	1
Sparta	1
Winnebago	1

V. LIQUORS. (5).

Beardstown	1
Dixon	1
Galena	1
Granite City	1
Highland	1
Mascoutah	1
Mendota	1
Millstadt	1
Murphysboro	1
New Athens	1
Peru	2
Thornton	1
Trenton	1
Waterloo	1

VI. FLOUR MILLS. (6)

Allendale	1
Altamont	1
Anna	1
Ava	1
Beardstown	1
Brighton	1
Carbondale	1
Carlisle	1
Carmi	1
Chester	1
Colden	1
Collinsville	1
Columbia	1
Coulterville	1
Dongola	1
Du Quoin	1
Dwight	1
Evansville	1
Freebury	1
Germantown	1
Golden	1
Greenfield	1
Greenwood	1
Griggsville	1
Harrisburg	2
Highland	1

VI. FLOUR MILLS. (6) (Continued)

Jonesboro	1
Lawrenceville	1
Leclaire	1
Lebanon	1
Marine	1
Marion	1
Marisia	1
Mascoutah	1
Mason	1
Maunie	1
McLeansboro	1
McHenry	1
Millstadt	1
Morton	1
Mound City	1
Mount Carmel	1
Mount Olive	1
Mount Vernon	1
Murphysboro	2
Nashville	2
New Athens	1
New Baden	1
New Douglas	1
New Minden	1
O'Fallon	1
Pinckneyville	1
Pittsfield	1

VI. FLOUR MILLS. (6) (Continued)

Prairie du Rocher	1
Red Bud	1
Shumway	1
Sparta	1
Steeleville	1
Tamaroa	1
Teutopolis	1
Warsaw	1
Waterloo	2
West Frankford	1

VII. AGRICULTURAL IMPLEMENTS. (7)

Albion	1
Allenville	1
Arlington Hts.	1
Ava	1
Batavia	2
Bradley	1
Campbell Hill	1
Canton	1
Carpentersville	1
Carthage	1
Chicago Hts.	1
De Kalb	1
Delavan	1
Dixon	1
Dwight	1
Edwardsville	1
El Paso	1
Eola	1
Galva	2
Havana	1
Homewood	1
Hoopeston	1
La Grange	1
Le Roy	1
Litchfield	2
Maroa	1
Mascoutal	1

VII. AGRICULTURAL IMPLEMENTS. (7) (Continued)

Mendota	1
Minier	1
Monmouth	2
Mount Vernon	1
New Borton	1
Ohawville	1
Paxton	1
Peru	2
Pinckneyville	1
Plano	1
Plymouth	1
Pontiac	2
Rockton	1
Sandwich	1
Shelbyville	1
Somonauk	1
South Bend	2
Sparta	3
Sterling	5
Tonica	1
Tuscola	1
Waldron	1
Warner	1
Washington	2

VIII. CARS (Railroad) (8)

Mt. Vernon	1
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IX. FURNITURE (14)

Altamont	1
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Arlington Hts.	1
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Morrison	1
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Naperville	1
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Savanna	1
---------	---

Bradley	2
---------	---

X. LUMBER & PLANING MILL PRODUCTS. (15)

Abingdon	1
Alto Pas	1
Anna	1
Antamont	1
Beardstown	1
Bushnell	1
Canton	1
Chicago Hts.	1
Clyde	1
Dallas City	1
Dixon	2
Edwardsville	1
Effingham	1
Geneva	1
Hoopeston	1
La Grange	1
Lamoille	1
Lawrenceville	1
McCleansboro	1
Metropolis	3
Mill Shoals	1
Monmouth	1
Morris	1
Mound Center	1
Mound City	5
Robinson	1
Scottsburg	1

X. LUMBER & PLANING MILL PRODUCTS. (15) (Continued)

Shelbyville	1
Sterling	1
Tuscola	1
Ullin	1
Zenia	1
Zion City	1

XI. ELECTRICAL MACHINERY & APPARATUS. (16)

Abingdon	1
Assumption	2
Genoa	1
North Chicago	1
Petersburg	1
Saint Charles	1
Sandwich	1

XII. TIN & COPPERSMITHING & SHEET IRON WORKING. (20)

Arlington Hts.	1
Bradley	1
Crawfordsville	1
Clyde	1
Des Plains	2
Granite City	1
Monmouth	1
Peru	1
Warren	1

XIII. SOAP & CANDLES. (21)

(None.)

XIV. MUSICAL INSTRUMENTS. PIANOS, ORGANS, ETC.. (23)

Dixon	1
Highland	1
Mount Carmel	1
Oregon	1

XV. BUTTER, CHEESE AND MILK. (24)

Aviston	1
Dundee	1
Geneva	1
Greenville	1
Harvard	1
Highland	1
Hillsboro	1
Marengo	1
Marshall	1
Naperville	1
Pearl City	1
St. Charles	1
Spring Grove	1
Sterling	1
Whitehall	1

XVI. LEATHER. (Tanned, curried and finished) (27)

Benton	1
Mount Vernon	1
Olney	1
Oswego	1
Ottumva	1
Sterling	2

XVII. PATENT MEDICINES & COMPOUNDS. (28)

Carrollton	1
Harrisburg	1
Harvard	1
Kinckley	1
Monticello	1
Morris	1
Polos Park	1
Sycamore	1

XVIII. CARRIAGES & WAGONS. (29)

Abingdon	1
Arlington Hts.	1
Batavia	1
Carlisle	1
Chicago Hts.	3
Dallas City	1
De Kalb	1
Geneseo	1
Harvard	1
Harvey	1
Hoopeston	1
Huntington	1
Manteno	1
Oregon	2
Rock Falls	1
Sandwich	1
Sterling	2
Sycamore	1

XIX. PAINTS. (30)

(None)

XX. BOOTS & SHOES. (31)

Beardstown	1
De Kalb	2
Dixon	1
Jerseyville	1
Morris	1
Pontiac	2
Troy	1

XXI. CLAY PRODUCTS. (34)

Albin	2
Aledo	1
Alsey	1
Anna	1
Carbon Cliff	1
Charleston	1
Creston	1
Edwardsville	1
Effingham	1
Glenview	1
Grand Park	1
Hillsboro	1
Lombard	1
Macomb	3
Manteno	1
Mascoutah	1
Monmouth	1
Morton	1
Newburn	1
New Windsor	1
Olney	1
Paris	1
Road House	1
Shelbyville	1
Troy	1
Whitehall	3

PAPER.

Carlisle	1
Centralia	1
Elmwood	1
Marseilles	4
Mount Carmel	1
Rockton	1
Rock Falls	1
Taylorville	1
Waldron	1

CANNING FACTORIES.

Altamont	1
Chenoa	1
Eureka	1
Gibson City	1
Hoopeston	2
Kane	1
Olney	1
Onarga	1
Paxton	1
Rockelle	1
Sycamore	1

GLASS.

Centralia	1
Chicago Hts.	1
Olney	1
Paris	1
Robinson	1
Saint Charles	1

LEAD, ZINC & ALUMINUM WORKING.

Carterville	1
Collinsville	1
Grantie City	1
La Grange	1
Lemont	1
Peru	1
Sandoval	1

WATCHES & CLOCKS

Granite City	1
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MISCELLANEOUS.

Abingdon	3
Altamont	1
Batavia	2
Benton	1
Blue Island	1
Braidwood	1
Brighton	1
Canton	1
Centralia	1
Charleston	2
Chicago Hts.	5
Chillicothe	1
Cissna Park	1
Cobden	1
Colfax	1
Collinsville	1
Dallas City	1
De Kalb	3
Edison	1
Edwardsville	1
El Paso	1
Elsah	1
Franklin Park	1
Fulton	1
Galva	1
Galena	1

MISCELLANEOUS. (Continued)

Geneva	1
Grafton	1
Greenup	1
Hamilton	1
Hampshire	1
Harvey	1
Hawthorne	1
Jonesboro	1
Kell	1
Kiethsburg	2
Lansing	1
Libertyville	1
McHenry	2
Melrose Park	1
Meredoria	1
Milford	1
Millington	1
Monmouth	1
Morgan Park	1
Morris	3
Mount Carmel	1
Murphysboro	1
Muskegon	1
Naperville	1
New Barton	1
Noble	1

MISCELLANEOUS. (continued)

Normal	1
Oak Park	1
Odin	1
Oquawka	1
Oregon	1
Paris	3
Paxton	1
Pittsfield	1
Polo	1
Port Bryan	1
Rockton	1
Salem	1
Savanna	1
Savoy	1
Sheldon	1
South Holland	1
Spring Valley	1
Sterling	4
Stillman	1
Sullivan	1
Utica	2
Vandalia	1
Wabash	1
Wadsworth	1
Wilmette	1
Woodstock	1
Zion City	2

EXPLANATION.

The following tables give a condensed analysis of the replies which were received in answer to the questionnaire. The cities are grouped into the three general classes previously mentioned, and the checks opposite the name of a city indicate the causes given in the reply received from a factory in that city. The industries are numbered according to the table on page 7, and the causes are numbered according to the table on page 8. Figures in the columns beneath the cause numbers indicate that those causes were considered either first, second or third. The note column refers to notes at the bottom of the page explaining certain replies.

CITIES OF CLASS I.

Cause Number.

Industry	City	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
I.	Aurora	x	x		x												
	Decatur	x	x	x	x												
III.	Aurora			x	x	x											
	"			x	x	x											
	"			x			x		x								
	"			x	x	x	x										
	"			x			x										
	"			x	x	x	x				1						
	"			x			x	x									
	Bloomington			x	x	x											1
	"			1	x	x											2
	"			2							1						
	Decatur			x	x	x											
	"										1					x	
	E. St. Louis	2	1	3	4	6	5										
	Elgin										1						3
	"			x	x	x		x									
	"			x		x							1				4
	"										1						
	Joliet			x	x	x	x										
	Peoria															1	5

Note 1. Small towns can not keep skilled labor and in very large cities, the cost of living is too high.

Note 2. Central location for the Illinois market.

Note 3. Able to buy a desirable location here.

Note 4. The name Elgin was considered an advertisement.

Note 5. Probably because of residence.

Industry.	City.	Cause Number.															Note
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
III.	Peoria	x	2	x	1												6.
	"			x	x	x											7.
	"					1											8.
	"															1	
	E. Peoria	x	2	x	1												9.
	Quincy	x	x	x							1						10.
	"			x	x	x											
	"									1							
	"									1							
	"									1							11.
	"																12.
	Rockford	x	x	x							1						13.
	"									1							
	"			x	x	x											
	"			x	x	x					x						14.
	"			x	1	x		x									
	"		x	x									1				15.
	"				2	3					1						16.
	"			x	x	x	x										

Note 6. Centrally located.

Note 7. A growing community.

Note 8. Supplies the distilling interests.

Note 9. Best distributing point in Illinois.

Note 10. Workmen remain because of low rent and food cost.

Note 11. Residence of stockholders.

Note 12. Largest stove center in the world.

Note 13. Strong temperance sentiment.

Note 14. City of homes for workmen.

Note 15. Cheap water power.

Note 16. Best city in the country to live in.

Cause Number.

Industry.	City.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
III.	Rockford		2	3								1					
	"	x	x														
	"			2					1								
	"		x	x	x			x									
	"	1															
	"			2													
	"		x	x					1								
	"		x		x												
	"			x	x												
	"												1				
	"		x	x	x												17.
	"		x	x	x												
	Springfield												1		x		
	"		1	x	x												18.
IV.	Aurora		x	x	x												
	"		x	x	x	x											
	Bloomington		1		2												
	Decatur			1													
	Elgin		x	x				1	2								
	Quincy		x	x													
	"			1													
	Rockford									1							
	"		3	2	1	4											19.
	"																20.

Note 17. Local capital.

Note 18. Hub of market.

Note 19. Freedom from strikes.

Note 20. The machine used is made here.

Cause Number.

Industry.	City.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
IV.	Rockford		x		x												21.
	"	x	x	x	x												
	"		x	x	x						1						22.
V.	Decatur		1		2												
	"		1		2												
	E. St. Louis		x		x												
	Elgin	1	x	x	x												
	Peoria		x		x						1						
	Quincy	x	1	x	x												
VI.	Aurora	x	x		x												
	E. St. Louis		x	x	x												
	Peoria	x	x		x												
	Quincy	x	x		x							x					
	Rockford	2											1				
	Springfield		x		x						1						
VII.	Decatur		x	x	x												
	"	x	x	x	x												
	Joliet	x	x	x	x												
	Peoria	x	3	x	x												
	"	x	x	x	x												
	"	x	x	x	x												
	Quincy		x	1	x												
	Rockford		x	x	x												x
	Springfield	x	x	x	x	x	x		x								
	"		x		x												

Note. 21. Fame of Rockford made goods.

Note. 22. Strong temperance sentiment.

Cause Number.

Industry.	City	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
IX.	Quincy		x														
	Rockford		x	x	x												
	"		x	1	x												
	"				x	x							1				
	"		x		x	x											
	"				2								1				
	"					x											
	"			2	x	x							1				23.
	"		x	x	x	x				1							
	"			x	x		x			1							
	"			x	x	x				1							
	"									1							
X.	Bloomington		x	x	x	x		x	x								
	Decatur			x	x						1						
	Elgin										1						
	Elgin										1						
	Quincy		x	x	x	x											
	"			x	x	1											24.
	Rockford		1										2				
	"									1							
XI.	Decatur										1						
	Peoria			x	x	x											
XII.	Rockford		x	x	x								x				
	Springfield		2								1						25.

Note. 23. Other factories used their machines.

Note. 24. River freight rates.

Note. 25. Acquaintance in the neighborhood.

Cause Number.

Industry.	City	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
XIII.	Elgin	x	x		x												
XIV.	Rockford										1						
	"			x	x	x											
XV.	Elgin	1	2	3	4												
	E. St. Louis	1	x		x												
	Joliet			x	x	1											26.
	"			x	x	x	x										
	Quincy										1						
	"										1						
	Rockford										1						27.
XVI.	Bloomington										1						
	Peoria					1											
	Quincy		x	1	x	x											
	Rockford		x	x	x	x											
XVII.	Bloomington										1						
XVIII.	Aurora			x	x	x					1						
	Quincy					x	x										
	"					1											
	Springfield		x	x	x	x					1						
XIX.	Rockford		x	x	x	x											
XX.	Decatur					1											

Note 26. Best possible shipping point.

Note 27. To supply a hosiery factory with boxes.

Industry.	City	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
XXI.	Bloomington	x	x														
	"									1							
	Elgin	.	x	x	x	x											
	Peoria		x	x	x	x											
Miscellaneous.																	
	Aurora		2		1												28.
	"				1												
	Decatur		x	x	x	x						x					
	"									1							
	"			x		x											
	"									1				2			
	"			x	x	x	x										
	E. St. Louis		x	x	x	x											
	"			x	x	x											
	"			x	x	x											29.
	Elgin							1									30.
	Peoria		x	1	x	x											
	Rockford		x	x	x	x											
	Springfield		x		x		x										
	"				3			1	2								

Note 28. Optical goods.

Note 29. Non-interruption by visitors.

Note 30. Local men subscribed for stock.

CITIES OF CLASS II.

Industry.	City.	Cause Number.															Note.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
I.	Jacksonville	x	x	x	x												
III.	Alton				1												1
	Danville		x	x	x												
	Freeport		x	x	x												2
	"		x	x	x												3
	"																
	"		x	x													
	"				1												
	Galesburg	x	x	x	x	x	x	x	x								4
	"	x	x	x	x						1						5
	"				1												
	Kewanee									1						x	
	"									1						x	
	"									1							
	"																6
	Mattoon		x		x											x	

- Note 1. Makes boats for the river.
 Note 2. Center of American distribution.
 Note 3. Owners have other interests in the city.
 Note 4. Less trouble with labor in a small town.
 Note 5. Educational facilities and moral influence.
 Note 6. Does not like location.

Industry.	City.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
III.	Moline				1												7
	"								1								
	"								1								
	"		1		2												
	"								1								
	"				1												8
	E. Moline		x	x	x												
	"		x	x	x												
	Pekin		x		x												
	"		1	x	x	x											9
	"		1														
	Rock Island		x		x		x			x							
	"		x		x												
	Streator		x	x													
	Waukegan		x	1	x	x											
IV.	Freeport			1	2				x								
	Jacksonville		1												x		
VI.	Alton		2		1												10
	Belleville		1														
VII.	Belleville		x	x	x	x											
	Freeport		x	x	x	1											11

Note. 7. Flour mill machinery factory located in 1860.

Note. 8. Flour mill machinery factory and located when Mississippi river was the main highway of trail.

Note 9. Proximity to cheap coal.

Note 10. Cheap coal.

Note 11. Owns property there.

Industry.	City.	Cause Number.															Note.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
VII.	Galesburg			1	x	x											
	"			x		x				1							
	"			x	x	x											
	Kankakee	x		x	x					1							
	Moline	x	x	x	x							1					
	"	x	x	x	x								1				
	"	x	x	x	x												
	E. Moline		x		x		x						1				12.
	Ottawa				1												13.
IX.	Moline	x	x	x	x												
X.	Moline			x		x											
	Pekin	x	x	x	x												
	Rock Island	x			x												
	Waukegan			x	x	x											
	Cairo	x	x	x	x												14.
	"	1															
XII.	Rock Island	x	x		1												15.
XIII.	Rock Island	x			x												16.
XIV.	Galesburg										1						
	Ottawa				x		x										
	Waukegan				x							x					17.

Note. 12. To be near another factory.

Note. 13. The canal forced freight down at this point.

Note. 14. Likes the climate.

Note. 15. Best shipping point in the West.

Note. 16. Close to a river for sanitary purposes.

Note. 17. Citizens bought stock.

Cause Number.

Industry.	City.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
XVI.	Freeport	x	x	x													x
	Galesburg										1						
	Ottawa		2							1							
	Waukegan	x	2	x	x												18.
XVIII.	Danville	x	x	x													
	Freeport	x	x	x													
	Lincoln									1							
	Moline	x	x	x	x												
	"		1														
	E. Moline	x	x	x													
	Ottawa	x	x	x	x												
	Rock Island	x	x	x								x					
	Streator	x		x													
XIX.	Kankakee	x	x	x	x			x									
	Moline	x		x													
XXI.	E. Alton	x	x														
	Danville	1															
	"	x	x	x	x												
	Kankakee	x	x	x	x												
	Streator	x			x												
Paper.	Freeport	1															
Glass.	Alton	2	x	x	1												19.
	Danville	x	x	x	x												
	Ottawa	x	x														
	Streator	x	x	x	x												

Note 18. Central for East or West.
Note 19. Fuel and water supply

Cause Number.

Industry.	City.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note.
-----------	-------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	-------

Miscellaneous.

	Cairo	x	x	x	x												
--	-------	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	"	2	x	x	1												
--	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	Danville	x	1	x	2												
--	----------	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	"		x		x												
--	---	--	---	--	---	--	--	--	--	--	--	--	--	--	--	--	--

	Freeport																1
--	----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

	Galesburg		2	3	1												
--	-----------	--	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	La Salle	x	x		x												
--	----------	---	---	--	---	--	--	--	--	--	--	--	--	--	--	--	--

	"				x	x											
--	---	--	--	--	---	---	--	--	--	--	--	--	--	--	--	--	--

	Lincoln																20.
--	---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

	Rock Island		x	x	x												
--	-------------	--	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	"	x	x	x	x												
--	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	"		x	x	x												
--	---	--	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--

	"				2						1						
--	---	--	--	--	---	--	--	--	--	--	---	--	--	--	--	--	--

Note 20. Capital offered to carry on the business.

CITIES OF CLASS III.

Industry.	Cause Number.															Note
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
I.	2	3	4	5												
III.	2	4	3	1												
		x	x			x	x						1			
	x	1	x											2		1.
	x	x	x	1												
		x	x						1							
	x	x	x	x					1							
		x	x	x						1						
		3	2									1				
		x		x				x								
	x	x	x	2					1							2.
		x	x													
		x	x									x				
			x												x	
			2						1							
			x	x												
	x	x	x	x					1							
		x	x													
		4	2	3					1			x				
			2	3												3.
	1															

Note 1. Can't get elsewhere.

Note 2. Could not have personal supervision elsewhere.

Note 3. Catered in 1854 to the river business.

Industry	Cause Number.															Note.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
III. (con)	x	x	x	x		x			x	1						
	x	x	1	x												4.
		x		x												
		2	1	3		x										5.
		2	1	3		x										6.
													1			
		1														
		x	x	x		x										
		3	4	2							1					
	x			x	x											7.
		3				1	2									
										1						
		x	x	x												
				2					1		3					
		x	x	x	x											
		x	x	x	x				1							
			x	x	x											
			x		x											
		2		3					1							
		x		x												8.
				x												
		x	x	1	x		x							x		

Note 4. To be near other factories.

Note 5. Better than a city for employees.

Note 6. Better than a city for employees.

Note 7. Cheap fuel.

Note 8. Can manufacture cheaper than elsewhere.

Industry.	Cause Number.															Note.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
III. (con)									1							9.
															1	
			3	2						1						10.
			1	2						3						11.
			3							2					1	12.
		3		2						1						13.
			x							2				1		14.
		x	x	x	x					1						
		1														15.
			x	2										1		16.
IV.		x	x			1	2									17.
									1						2	
			x	x				x			1					18.
V.		x	x	x												19.
VI.		x	x	x	x											
		1			2											
		1			x											
		1	x	x	x											
		1	2	3												

Note 9. Man owning patent lives there.

Note 10. Near Chicago is a better place to live than the ordinary factory town.

Note 11. Better work from laborers than in a city.

Note 12. Labor better than in a larger city.

Note 13. Relatives live near.

Note 14. Free from high taxes, high labor and strikes.

Note 15. A good manufacturing suburb.

Note 16. Able to get a desirable site and building here.

Note 17. Labor scarce. Larger town desirable.

Note 18. Far enough from a large city, not to be dominated by it.

Note 19. An established business.

Cause Number.

Industry.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Note
VI. (con)	1	2	3													
	1	2														20.
	x	x		x												
	x	x		x												
				x	x											
	x			x												21.
	x			x												
	1															
	1															
	x	x	x	x												
	x	x	x	x												
	1															22.
	1															
	x	x		x												
	x			x												
	1															
	1															
VII.	x	x	x					x								23.
	x	x	x	x							x					
	x	x	x	x					1		2			x		24.
	x			x		x	x									
			x	x					1							25.
									1					x		

Note 20. Labor cheaper than in a city.

Note 21. Best country, best people.

Note 22. Owners are large wheat growers.

Note 23. Granted water and electric light for five years.

Note 24. Owners probably wanted to do something for their town.

Note 25. Other business interests there.

Industry.	Cause Number.															Note.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
VII. (con)	x	x	x													26.
									1						x	
			x	x	x				1							
	4	1	2	3												
			x	x	x		x		x							
				x					x							
			x	x	x											27.
			1		2											
			x	x	x											
VIII.			x	1	x											28.
IX.					1											29.
X.			x	x	x	x										
			x	x	x	x										
			x	x	x	x										
				x	1	x		x								
				x	x	x										
				x	x	x										
			x	x	x	x								1		30.
			x	x	x	x		x		x						31.
									1							
						1										32.

Note 26. Cheap electric power and good water.

Note 27. Owns property there.

Note 28. Far enough from city to avoid labor troubles.

Note 29. Location is thirty miles from Chicago, and transportation for both raw and finished products are cheap.

Note 30. No competition within fifty miles.

Note 31. Home town of one partner.

Note 32. Hickory almost exhausted.

Industry.	Cause Number.															Note.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
XI.				x	x											
XII.	x	x	x	x												
	x	x		x												
				x	x	x										
				x	x	x										
	x	x	x	x												33.
	x	x		x												
XV.	1	x	x	x												
	x	x		x					1							34.
	1	x	x	x												35.
	1			2												36.
XVI.															x	
	x	1	x	x												
XVII.																37.
XVIII.		1	2	3												38.
	x	1		x			x	x								
	x	1		2		3										39.
			x		x	x	x	x								40.
			x		x											
			x	x	x											
	x										1					41.

Note 33. Cheap fuel.

Note 34. Local men desired to improve the community.

Note 35. Water supply is necessary for condensing.

Note 36. Good water supply.

Note 37. Business started in 1892.

Note 38. Rates on finished product are higher than on raw material.

Note 39. Chicago is the best distributing center.

Note 40. Low cost of living in a small town.

Note 41. Property interests there.

Industry.	Cause Number.															Note.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
XX.			x	1	x		x	x								
			2	1												42.
	1															
XXI.	x	x	x	x											x	
	x	x														
	1															
	x	x	x	x												
Paper			x	x	x				1							
	2	3		4								1				43.
												1				
	x	x	x	x	x	x	x									
Canning	x		1	x												44.
	1															
	x	x	x	x												
	x	x	x	x												
								1								45.
	1															46.
	1	x	x													
Lead, Zinc, etc.																47.
	1	x	x	x		x										48.
Miscellaneous									1						x	
	x	x				x		x								

Note 42. Near St. Louis and owner can reach it easily.

Note 43. Good fuel supply.

Note 44. Anti-saloon town furnish better labor.

Note 45. Locality not good. Labor and raw materials scarce.

Note 46. Soil grows sweet corn readily.

Note 47. Cheap land.

Note 48. A healthy locality. Coal there also.

Industry.	Cause Number.															Note.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Miscellaneous (con)	x	x	x	x												
	x	1	x													2
			x	x												
		x		x		x	x									
	x	x	x	x		x	x									49.
	x		x	x		x		x								
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			x													
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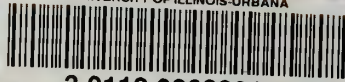
Note 49. Free switching facilities and cheap rents.

Note 50. Better place for laborers to live than in a city.





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